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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,234

12/01/2005

Beat O. Blattmann

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GENENCOR INTERNATIONAL, INC.  
ATTENTION: LEGAL DEPARTMENT  
925 PAGE MILL ROAD  
PALO ALTO, CA 94304

EXAMINER

PROUTY, REBECCA E

ART UNIT

PAPER NUMBER

1652

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,234	<b>Applicant(s)</b> BLATTMANN ET AL.	
	<b>Examiner</b> Rebecca E. Prouty	<b>Art Unit</b> 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-12, 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Claims 1-8 have been canceled. Claims 9-19 are at issue and are present for examination.

Applicant's election with traverse of Group XXIII (Claims 13-15 and 19 in the reply filed on 5/30/08 is acknowledged. The traversal is on the ground(s) that claims 9-12 and 17 should be induced with the elected invention as they are drawn to methods of modifying a phytase also. This is not found persuasive because claims 9-12 are not in fact drawn to methods of modifying a phytase but are drawn to methods of expressing a modified phytase. These are not the same thing, are separately classified (i.e., methods of mutating (elected claims) are classified in 435/440 while methods of expressing a modified phytase are classified in 435/196 and the groups do not share a special technical feature as explained in the restriction requirement and further shown in the art rejections herein. Furthermore, contrary to applicants statement, claim 17 is drawn to a protein and not to methods as recited in the elected invention. The recited protein of claim 17 does not share a special technical feature with the elected invention for the reasons presented previously.

Applicants also noted that Groups X and XXI as previously defined recite the same thing. However, mere perusal of claims 3-12 would have made it clear that this was merely a mistaken

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statement of the subject matter of Group XXI which clearly should have said Group XXI, claim(s) 3-12, drawn to a nucleic acids, vectors and host cells encoding modified phytases and methods of making said phytases wherein said modified phytase has a modification of a residue within 5 amino acids and/or 6 Å of the alpha carbon of residue 384 of the mature E. coli phytase designated EBC18B2 instead of Group XXI, claim(s) 3-12, drawn to a modified phytase having a modification of a residue within 5 amino acids and/or 6 Å of the alpha carbon of residue 384 of the mature E. coli phytase designated EBC18B2 which clearly is the subject matter of claims 1 and 2 (Group X). The examiner regrets any confusion caused by the mistake.

The requirement is still deemed proper and is therefore made FINAL.

Claims 9-12 and 16-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/30/08.

Applicant is required to comply with the sequence rules by inserting the sequence identification numbers of all sequences recited in the specification and claims. It is particularly noted that claim 19 recites the nucleotide sequences of Figure

21 and the drawings (particularly Figures 3, 12, 14, and 19-21) include many sequences without any sequence identification numbers recited in the figure or brief description thereof. See particularly 37 CFR 1.821(d).

Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is indefinite in the recitation of "sequence encoding an AppA phytase or encoding a natural variant thereof" as it is unclear what sequence this would encompass. Page 17 of the specification recites that "AppA phytase", as used herein, refers to a phytase protein derived from an *Escherichia* species, preferably from an *E. coli* strain, most preferably from the *E. coli* K-12 strain and page 25 of the specification states that by "natural variant" (of AppA phytase) is meant a naturally occurring amino acid sequence for an enzyme having phytase activity, which has been isolated from a source other than *E. coli*. A "natural variant" encompasses a native amino acid sequence "substantially identical" (as previously defined), to the amino acid sequence of the mature *E. coli* phytase sequence designated EBC18B2 of Figure 12. Thus clearly the phrase "sequence encoding an AppA phytase or encoding a natural variant

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thereof" encompasses the sequence encoding any naturally occurring *E. coli* phytase or any naturally occurring phytase of another source which is "substantially identical" (as previously defined), to the amino acid sequence of the mature *E. coli* phytase sequence designated EBC18B2 of Figure 12. However, the definition of "substantially identical" on page 21 of the specification is unclear. The specification recites that the phrase "substantially identical" in the context of two nucleic acid sequences or polypeptides thus typically means that a polynucleotide or polypeptide comprises a sequence that has at least 60% sequence identity, preferably at least 80%, more preferably at least 90% and most preferably at least 95%, compared to a reference sequence using the programs described above (e.g., BLAST, ALIGN, CLUSTAL) using standard parameters. However, as this recites "typically means" this definition lacks clarity as the specification indicates that it does not always apply. Thus in certain undefined situations the term may not be limited to sequences having at least 60% identity to the reference sequence (i.e., the mature *E. coli* phytase sequence designated EBC18B2 of Figure 12 in the instant situation). However, for further examination the phrase "sequence encoding an AppA phytase or encoding a natural variant thereof" is taken to mean the sequence encoding the mature *E. coli* phytase

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sequence designated EBC18B2 of Figure 12 or any sequence encoding a naturally occurring phytase of another source which is at least 60% identical thereto.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 13-15 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Short et al. (US Patent 6,720,014).

Short teach methods of making variant phytases comprising error-prone amplification of a naturally occurring *E. coli* phytase nucleic acid, recombinant expression of the mutant nucleic acid (see for example column 7, lines 29-36, column 8, lines 11-17, and column 18, lines 41-48) and isolation of the mutant phytase. Short et al. teach that suitable recombinant hosts include *E. coli* and *Bacillus subtilis* (see column 36, lines 3-10). As such Short et al. anticipate all the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nashaat Nashed, can be reached at (571) 272-0934. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Rebecca Prouty/  
Primary Examiner  
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